

A second dose renews the original effect or intensifies the action already produced. In comparison with other substances, none were so efficient. Ergot was unreliable, and only the most recent preparations were active. So far as these experiments went, pituitrin was the most efficient and rapid agent for securing uterine contractions.

GYNECOLOGY

UNDER THE CHARGE OF

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Iodide Solutions in Roentgenography.—The use of thorium solutions as opaque media in pyelography has practically superseded the old colloidal silver solutions on account of the greater safety, but one objectionable feature against thorium is the amount of care necessary in making a satisfactory solution. A more common and inexpensive substance whose aqueous solution is neutral would be preferable. For this purpose CAMERON (*Jour. Am. Med. Assn.*, lxx, 754) suggests a 50 per cent. solution of potassium iodide, which is almost completely opaque to the roentgen rays. The solution is perfectly clear and is strongly saline in taste, but not irritating to the tongue. It has a low viscosity, can be readily sterilized by boiling and is miscible with urine and blood without causing any precipitation or coagulation. The important question as to the possibility of these solutions causing toxic effects or local irritation is being thoroughly investigated. Though from the nature of these substances no such effects are anticipated, it cannot be stated now that they are entirely innocuous. However, Cameron has used solutions of high concentration in the kidney pelvis of the lower animals, and has used a 15 per cent. solution in the human bladder, and no undesirable effects of any nature have been encountered. Excellent roentgenograms were obtained in all instances.

Ureteral Stricture.—Ureteral stricture, or narrowing of the ureteral lumen, due to intrinsic inflammatory changes in the ureteral wall is a disease far more common and of vastly greater importance than the literature or our previous experience has led us to believe, states HUNNER (*Bull. Johns Hopkins Hospital*, 1918, xxix, 1), in presenting a paper based upon an experience with over 150 cases of this condition. According to him the majority of ureteral strictures, excluding those of tuberculous origin, should be classified as simple chronic stricture, and they have their origin in an infection carried to the walls of the ureter from some distant focus, such as diseased tonsils, sinuses, teeth or in the gastro-intestinal tract. This conception of stricture postulates that in the majority of cases ureteral infiltration is primary, and that the other urinary tract lesions so often associated with stricture, such as stone in the ureter, hydronephrosis, pyelitis and pyonephrosis, are secondary.

In substantiation of this assumption, Hunner has had a few cases which have persistently showed no material improvement in symptoms until after the removal of infected tonsils or teeth, and another list of patients who have been dismissed as well after dilatation of the strictures or after getting rid of the pyelitis by dilatation of the stricture and lavage, and who have returned with their old symptoms after a fresh tonsillitis attack or after undergoing dental work. Regarding the symptoms that are presented by these cases of ureteral stricture, it may be stated that pain is the most common, and only in rare cases is it absent. To attempt to draw a pain chart of this affection one would need a diagram of the human frame extending from the diaphragm to the ankles. The most deeply shaded portion of this chart would center in the local area of ureteral inflammation, or in other words, in the broad ligament region deep in the pelvis. From this center of inflammatory discomfort in the pelvis the pain may radiate in any direction, upward toward the kidney, laterally into the hips or groin region, posteriorly, simulating a sacro-iliac joint condition or a sciatica, and downward into the thigh and leg either posteriorly or anteriorly. Next in frequency to the local ureteral pain is pain in the kidney region. This is probably at times a referred pain from the inflammatory area in the ureter, but it is usually due to overdistention of the pelvis of the kidney. The urine may be quite negative on repeated careful centrifuging and microscopic search. Chills and fever are common in cases with urinary infection. A patient with infection may go for weeks or months without chills or appreciable fever and, indeed, may be in apparently perfect health, or may suffer only from malaise and general depression. The stricture is located in the broad ligament region or within 6 cm. of the bladder in by far the greater number of cases. The next most frequent location is at the bifurcation of the internal iliac vessels or about 8 to 10 cm. above the bladder which is from 3 to 5 cm. below the pelvic brim. In both of these regions there are groups of lymphatic glands and at operation these are sometimes found enlarged. The inflammatory area itself varies from a slight annular thickening in the ureteral wall to a condition of diffuse cartilage-like thickening which may occupy several centimeters of the ureter and form a mass a centimeter in diameter, while multiple annular strictures are not uncommon. One of the most interesting side-lights on ureteral disease furnished by this study has been the revelation of the probable cause of most ureteral stones. In operating for a ureteral stone and finding it encased in dense infiltration tissue we have heretofore considered the inflammatory area as due to the irritation of the stone. At present, however, there is abundant evidence to indicate that the stone results from urinary salts being deposited on the inflamed surface of the stricture area. The diagnosis of ureteral stricture depends upon the history, urinary examination, palpation of the abdomen, with special reference to the kidney, and ureter regions, palpation of the ureters through the vagina or rectum, cystoscopy, catheterization of the ureters by specially prepared catheters, and roentgenography. Cystoscopy is usually quite negative, but in the occasional case in which the stricture is near the bladder wall there may be redness and edema about the ureteral orifice, suggesting the picture seen with a low ureteral stone. One of the most suggestive

points in cystoscopy is the finding of a urethral stricture when preparing the urethra for the cystoscope. Although stricture of the female urethra is common after a gonorrheal infection, Hunner has learned by experience to give its presence considerable weight in the diagnosis of a suspected ureteral stricture. The crucial test, however, in diagnosing ureteral stricture is made with the wax-bulbed catheter. The chief end sought in the treatment of this condition is the relief of symptoms, and in the infection cases a urine freed from infection. In all cases suitable for dilatation such a thorough opening of the stricture area should be made that there will be no recurrence. There are very few cases in which the symptoms cannot be ameliorated, and fortunately, in the majority of cases, the patients can be relieved to a large extent if not entirely. There are very few cases of pyelitis in which the infection cannot be controlled, but Hunner believes that time will demonstrate that in many cases it will be impossible to get a permanent dilatation of the stricture and complete relief of symptoms until the original focus of infection has been eradicated. When all the methods of vesical approach fail we have to consider operative measures. No form of operation should be undertaken until as complete investigation as possible has been made of both sides. Stricture of the ureter being bilateral in 30 per cent. of the cases, we cannot afford to take anything for granted in dealing with a case in which symptoms may be confined to one side.

Renal Tuberculosis.—BUGBEE (*Surg., Gynec. and Obst.*, 1918, xxvi, 479) states that the present status of renal tuberculosis may be summarized by stating that it may be a primary lesion, and it arises from a filtration of tubercle bacilli from the blood stream into the parenchyma or tubules of the kidney, where changes similar to those found in tuberculous foci in other parts of the body take place. An effort is always made to wall off the process, but the formation of antibodies is so slow and the immunity of the patient, which may have always been absent or which may have been temporarily diminished, is so low that the lesion usually gets beyond control, and usually goes on to wide destruction of the kidney and extension to the other kidney, to other parts of the urinary tract and of the body. From the nature of the lesion, remissions are common and the symptoms of renal tuberculosis are misleading, often slight at the onset, giving no indication of the extent of the lesion. The diagnosis of this condition may be simple or, on the other hand, the most difficult of all urinary lesions, often requiring preliminary treatment to allay acute symptoms and repeated cystoscopic examinations over a long period of time. The treatment cannot be outlined from a study of the symptoms, but it is most important that the remission of symptoms, often for long periods of time, should not be accepted as a cure. The effort on the part of nature to inhibit the progress of the disease and to limit the lesion should be borne in mind, utilized and encouraged in every possible manner in inoperable cases as well as before and after operation. Occasionally the lesion may become arrested and walled-off but even when arrested, a kidney the site of poorly drained cavities is a menace to the system, therefore, nephrectomy for unilateral renal tuberculosis is the proper treatment.